Brain, Computation and Data Science: RTP

Research training program (RTP) for the BCD program involves a minimum of 12 credits for students who come with M.E./M.Tech. qualifications, and a minimum of 24 credits for students who come with B.E./B.Tech./M.Sc. Degrees (which is same as the requirements of other interdisciplinary Ph.D. programs). RTP should include at least 6 credits to be chosen from the list of SCC-approved softcore courses, given below.

Brain, Computation and Data Science: Soft core courses

The "soft core" courses are split into two pools: Pool A corresponds to neuroscience courses, and Pool B refers to machine learning and signal processing courses. A student is expected to take at least one course each from Pool A and Pool B as part of their RTP. The specific softcore courses and the other courses to complete credit requirements are to be chosen after consultation with their thesis advisors. The list of soft-core courses is as follows:

Soft Core Pool A: Neuroscience courses

NS 201 (AUG) 2:0 Systems Neuroscience
NS 202 (AUG) 2:0 Molecular and Cellular Basis of Behaviour
NS 203 (AUG) 2:0 Cognitive Neuroscience
MB 214 (AUG) 3:0 Neuronal Physiology and Plasticity
EC 301 (AUG) 2:1 Animal Behaviour: Mechanisms and Evolution
MB 208 (JAN) 3:1 Theoretical and Computational Neuroscience
NS 212 (JAN) 2:1 Neural Signal Processing

Soft Core Pool B: Machine Learning and Signal Processing courses

E9 201 (AUG) 3:0 Digital Signal Processing
E1 222 (AUG) 3:0 Stochastic Models and Applications
E0 229 (AUG) 3:1 Foundations of Data Science
E0 299 (AUG) 3:1 Computational Linear Algebra
E9 205 (AUG) 3:1 Machine Learning for Signal Processing
E2 212 (AUG) 3:0 Matrix Theory
E2 202 (AUG) 3:0 Random Processes
DS 265 (JAN) 3:1 Deep Learning for Computer Vision
E0 270 (JAN) 3:1 Machine Learning
E0 304 (JAN) 3:1 Computational Cognitive Neuroscience
E1 213 (JAN) 3:1 Pattern Recognition and Neural Networks
E9 213 (JAN) 3:0 Time Frequency Analysis
E2 236 (JAN) 3:1 Foundations of Machine Learning